

Surname	Centre Number	Candidate Number
First name(s)		0



GCSE

C550U10-1



TUESDAY, 24 MAY 2022 – AFTERNOON

PHYSICAL EDUCATION (full course)
Component 1: Introduction to Physical Education

2 hours

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet.

If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

Diagrams, charts and graphs can be used to support answers when they are appropriate.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

For Examiner's use only					
Question	Maximum Mark	Mark Awarded	Question	Maximum Mark	Mark Awarded
1.a	4		3.c	6	
1.b	2		3.d	3	
1.c	4		3.e	2	
1.d	3		3.f	6	
1.e	5		4.a	6	
1.f	6		4.b	3	
2.a	2		4.c	5	
2.b	3		4.d	4	
2.c	2		4.e	3	
2.d	1		5.a	6	
2.e	13		5.b	2	
2.f	4		5.c	2	
2.g	6		5.d	2	
3.a	7		5.e	6	
3.b	2				

Total	120	
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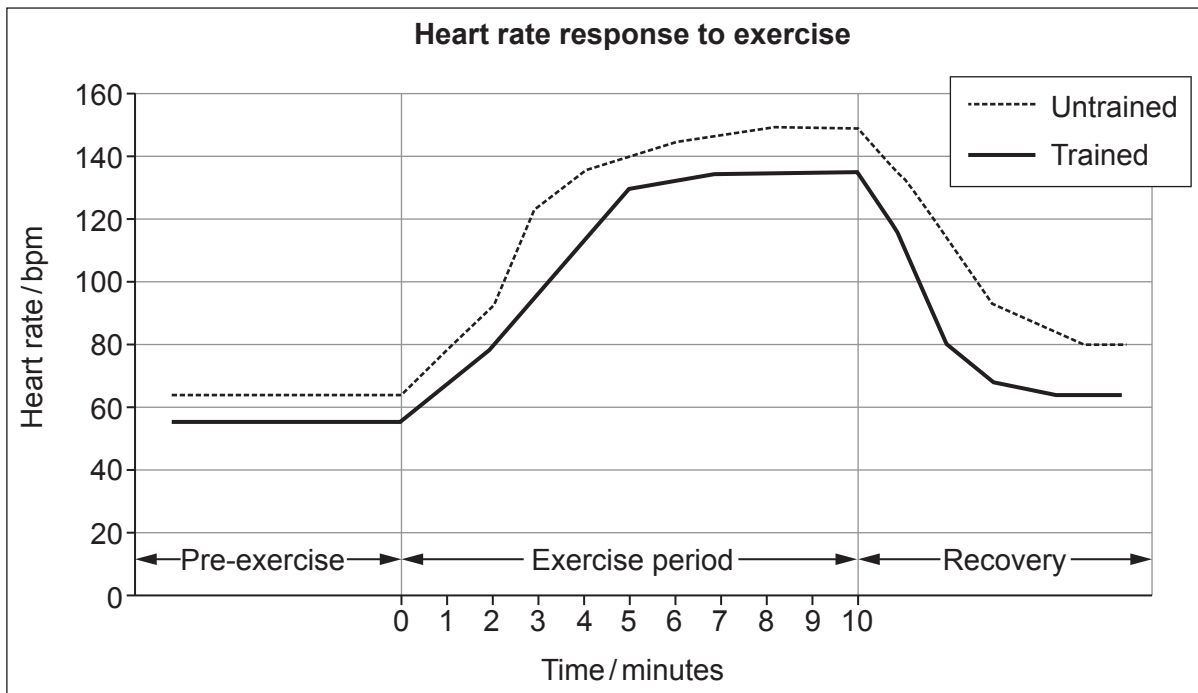


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Answer **all** questions.

1. **Figure 1** shows data recording 10 minutes of aerobic exercise for trained and untrained 16-year-olds.

Figure 1



- (a) (i) Analyse the data in **Figure 1** to identify **two** differences in the heart rate response to exercise between the trained and untrained 16-year-olds. [2]

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- (ii) Explain **one** reason why there is a difference in heart rate between the two 16-year-olds in **Figure 1**. [2]

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(b) Name the **two** types of circulatory systems found in the body. [2]

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(c) Explain how the body regulates temperature during exercise. [4]

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(d) Explain how continuous training could be used to improve cardiovascular endurance. [3]

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Long-term training requires motivation.

- (e) (i) Explain the importance of intrinsic and extrinsic motivation to aid adherence to physical activity. [4]

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- (ii) Identify **one** method that can be used to aid mental preparation. [1]

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- (f) (i) State **two** long-term consequences of an inactive lifestyle. [2]

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- (ii) Justify how physical education aids a child's overall well-being. [4]

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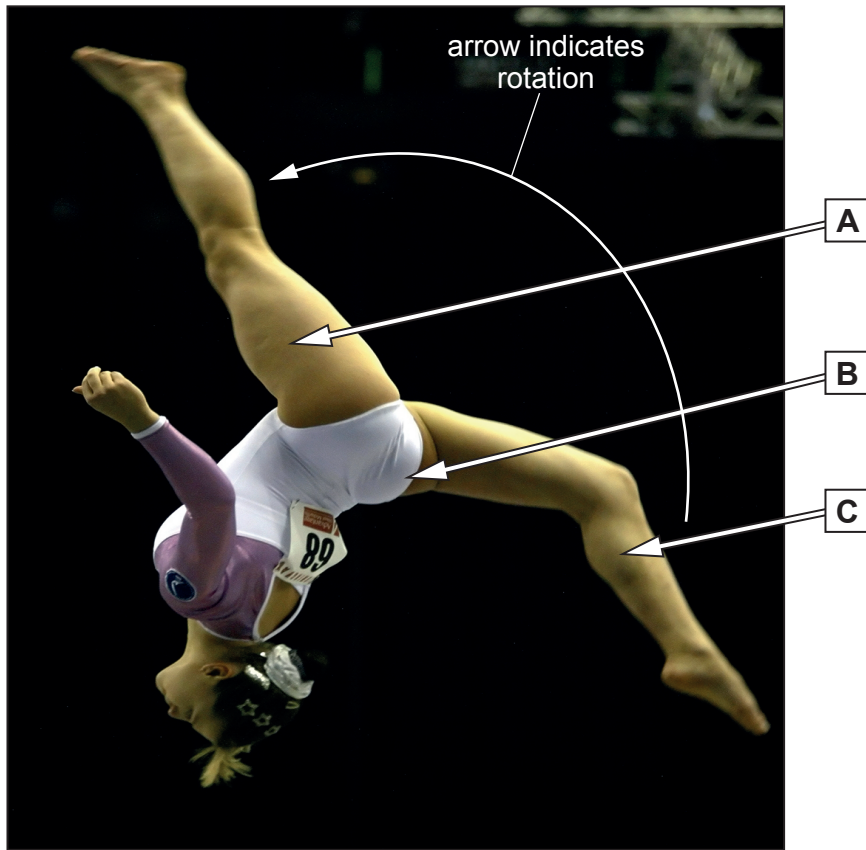
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2. **Figure 2** shows a gymnast performing a rotational move on the beam.

Figure 2



- (a) Identify the axis and plane of movement that the gymnast is working in. [2]

Complete the tables below. Tick (✓) **one** box only.

Axis of movement	Tick (✓) one box only
Sagittal	
Vertical	
Frontal	

Plane of movement	Tick (✓) one box only
Sagittal	
Frontal	
Transverse	



(b) Identify the correct muscles and bones in **Figure 2**.

[3]

	Name of bone or muscle
A. Bone
B. Muscle
C. Muscle

(c) Explain why the gymnast in **Figure 2** is working in the anaerobic training zone.

[2]

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(d) Identify which classification of lever is the most efficient when moving a load.

[1]

Tick (✓) **one** box only.

- Second class lever
- Third class lever
- First class lever
- Fourth class lever



Performing a somersault requires the use of power.

(e) (i) Define power. [1]

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(ii) Explain how plyometric training could be used to develop power. [3]

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(iii) Identify the relevant fitness component and test for each definition. [6]

Complete the table below.

Definition	Fitness component	Name of test
Moving the body as quickly as possible from A to B
The ability to move two or more body parts at the same time
The percentage of body weight that is fat, muscle and bone

(iv) Justify the importance of monitoring fitness levels for an elite sports person. [2]

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(v) Identify how the maximum heart rate of an individual is calculated. [1]

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(f) Explain **two** reasons why a warm-up would benefit a sports performer.

[4]

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(g) Gamesmanship is a more common behaviour than sportsmanship in modern day sport. Discuss.

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3. **Figure 3** shows a tackle bag being used at a rugby festival

Figure 3



(a) (i) Identify the type of guidance shown in **Figure 3**. [1]

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(ii) Analyse types of guidance that could be used to aid learners through the cognitive stage of learning. [6]

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(b) Justify **one** reason for performing a cool-down. [2]

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(c) (i) Explain, using sporting examples, self-paced and externally-paced skills. [4]

Type of Skill	Explanation using sporting examples
Self-paced	<p>.....</p> <p>.....</p> <p>.....</p>
Externally-paced	<p>.....</p> <p>.....</p> <p>.....</p>

(ii) Identify **two** characteristics of a skilled performer. [2]

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(d) Identify **three** factors that could impact on participation in sport. [3]

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(e) (i) Identify a normal resting minute ventilation value (l/min) for a healthy individual. [1]

Tick (✓) **one** box only.

6 l/min

25 l/min

100 l/min

120 l/min

(ii) State **one** function of the respiratory system. [1]

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(f) Analyse the different types of muscle fibres used in team games.

[6]

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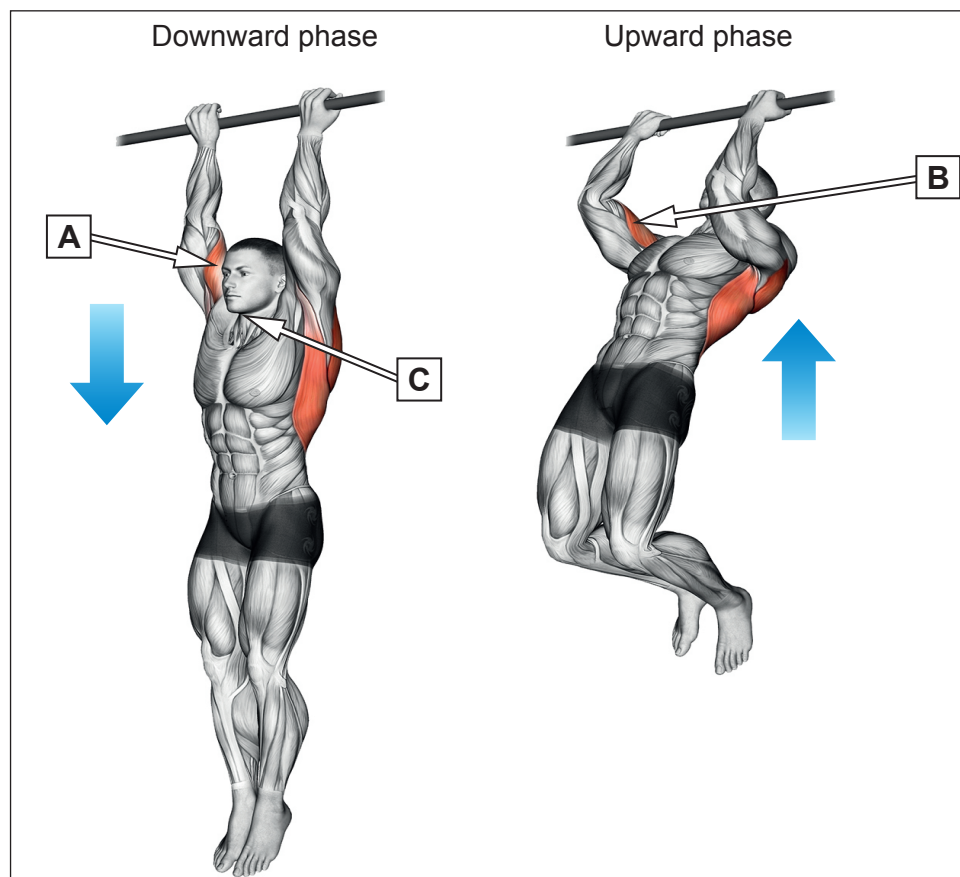
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4. Figure 4 shows the two phases of a pull-up.

Figure 4



- (a) (i) Identify the type of muscular contraction shown at **A** in the downward movement at the elbow in **Figure 4**. [1]

Tick (✓) **one** box only.

Isometric

Concentric

Sagittal

Eccentric



(ii) Analyse the movement taking place during both phases of the pull-up in **Figure 4**. [4]

Downward phase	Movement and muscle
Movement at A
Agonist muscle used

Upward phase	Movement and muscle
Movement at B
Agonist muscle used

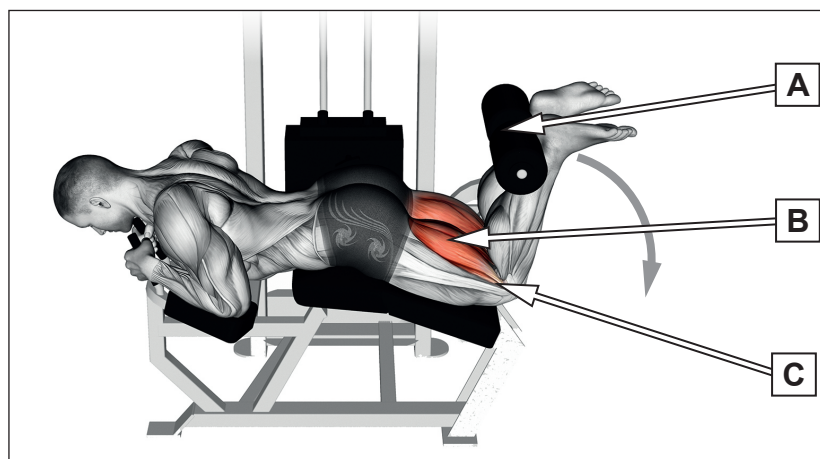
(iii) Identify the type of synovial joint found at the neck (**C**) in **Figure 4**. [1]

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Figure 5 shows an athlete performing leg curls

Figure 5



(b) Identify the component parts of the lever system in **Figure 5**. [3]

Draw a line to match the correct lever term to a letter from **Figure 5**.

Fulcrum (F)

A

Load (L)

B

Effort (E)

C

(c) (i) Assess the importance of applying progression and overload to a training programme. [4]

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(ii) Define the principle of training, variance. [1]

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(d) Discuss the advantages and disadvantages of the media's influence on sport. [4]

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(e) Identify the correct definitions.

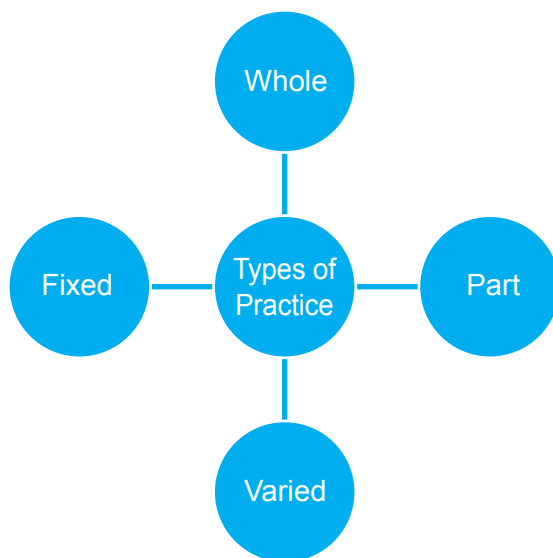
Draw a line to match the terms to the correct definitions. [3]

Term	Definition
Ligament	Attaches muscle to bone
Tendon	Relaxes while the agonist contracts
Antagonist	Attaches bone to bone



5. **Figure 6** shows types of practice.

Figure 6



(a) Analyse the importance of different types of practice when developing movement skills. [6]

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(b) Identify **two** reasons for the use of goal setting in a training programme. [2]

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(c) Explain **one** possible advantage of using technology to help improve sporting performance. [2]

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(d) Identify **two** nutrients that are essential for bone health and growth. [2]

- 1.
- 2.

(e) Explain, using sporting examples, the energy balance equation. [6]

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