Surname	Centre Number	Candidate Number
First name(s)		0

GCSE

3555U10-1

Z22-3555U10-1

TUESDAY, 24 MAY 2022 – AFTERNOON

PHYSICAL EDUCATION (Short Course)

Unit 1: Introduction to Physical Education

1 hour

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1a	**5**	
1b	**8**	
1c	**4**	
2a	**6**	
2b	**5**	
2c	**8**	
3a	**5**	
3b	**5**	
3c	**4**	
Total	**50**	

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01

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

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 continuation page 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.

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Answer **all** questions.

1. Read the following training information for two 16-year-old middle distance runners.

	Schedule A	**Schedule B**
Monday	Rest day.	Rest day.
Tuesday	6 minute easy run, 6 minute faster run, 6 minute easy run with rest intervals in between runs.	6 minute easy run followed by a 15 minute fast run with a 6 minute easy run to warm down.
Wednesday	Rest day.	25 minute run varying speed of running and changing terrain.
Thursday	Easy run, walk and jog followed by 4 x 4 minute runs at speed with 3 minute recovery between each run. Easy run, walk and jog to finish.	6 x 4 minute runs at speed with 2 minute rest between each run.
Friday	Rest day.	Rest day.
Saturday	15 minute run low to medium intensity.	20 minute run medium to high intensity.
Sunday	10 minute easy run.	20 minute easy run.

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Cardio-vascular endurance is an important fitness component needed by middle distance runners.

(a) (i) Give a definition of cardio-vascular endurance. [1]

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(ii) Name **one** recognised fitness test of cardio-vascular endurance. [1]

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(iii) Explain how the test of cardio-vascular endurance identified in **1**(a)(ii) above is carried out. [3]

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(b) Discuss the possible reasons for the differences in the content of training **schedule A** and **schedule B**. [8]

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(c) (i) State what is meant by the definition; “the complete mental, social and physical well-being of an individual”. [1]

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(ii) Explain how taking part in sport and physical activity can help a person’s mental well-being. [3]

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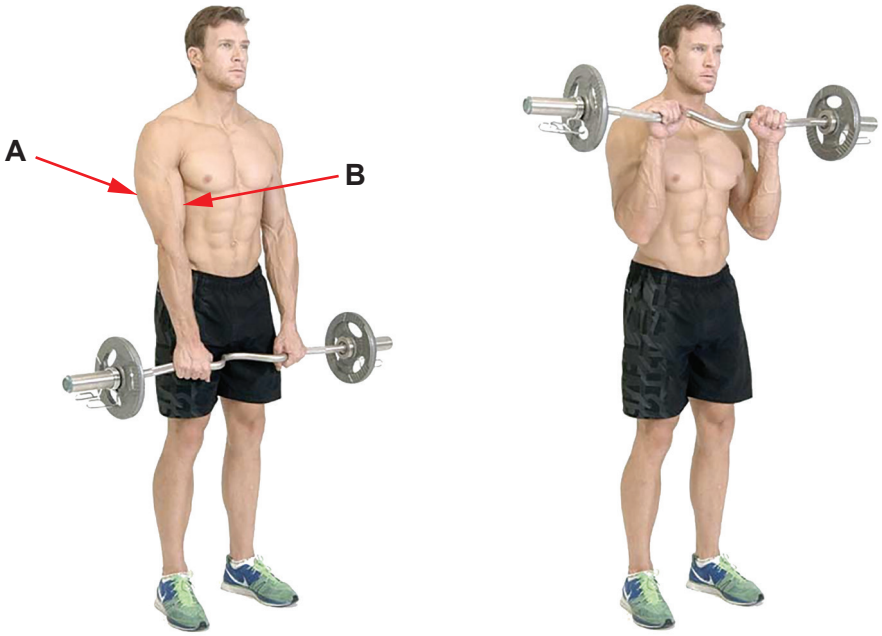
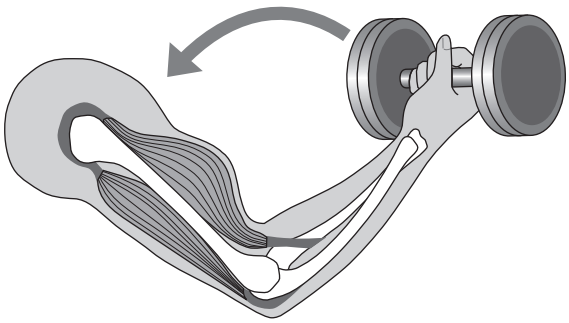
2. "Successful sporting actions depends on our muscles working together to produce movement."



(a) (i) Identify the muscle groups shown at **A** and **B** in the diagram. [2]

Muscle Group **A** = ...

Muscle Group **B** = ...



(ii) Our muscles use bones as levers.
Study the image of a bicep curl to identify the order of lever shown.
Tick (✓) **one** box only. [1]

First order lever ☐

Second order lever ☐

Third order lever ☐

Fourth order lever ☐

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(iii) Using the terms; load/resistance, force/effort and pivot/fulcrum, justify your answer to **2**(a)(ii). [3]

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(b) (i) Draw lines to match the type of muscular contraction to the correct definition. [3]

Muscular contraction	**Definition**
Isotonic/Concentric	The ends of the muscle move further apart
Isometric	The ends of the muscle move closer together
Isotonic/Eccentric	There is no movement

(ii) Name the fibrous tissue which joins bone to bone. [1]

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(iii) Name the fibrous tissue which joins muscle to bone. [1]

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(c) Taking part in regular physical activity can lead to changes in a sportsperson's circulatory system such as:

- the heart contracts more powerfully
- heart rate increases
- stroke volume increases
- blood is diverted more effectively to different areas of the body during activity.

Analyse how these changes can be of help to a sportsperson when performing in physical activity. [8]

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3. Rowers need power and muscular endurance in order to perform effectively.

(a) (i) Name a recognised training method that rowers could use in order to improve power. [1]

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(ii) Identify **one** recognised fitness test that measures power. [1]

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(iii) Identify **one** recognised fitness test that measures muscular endurance. [1]

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(iv) Explain why fitness tests must be valid and reliable. [2]

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(b) Evaluate how improvements to power and muscular endurance could improve the performance of a rower. [5]

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(c) Explain why rowers should train using correct techniques. [4]

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END OF PAPER

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For continuation only.